

1. In a rotary printing machine having multiple stages, the invention comprising:

(a) horizontally extending partition means for dividing the machine into upper and lower chambers;

(b) blower means for exhausting air from one of said chambers and creating a subatmospheric pressure in said one chamber; and

(c) said one chamber extending horizontally through multiple stages of said printing machine in an open and continuous manner without partitions therebetween.

2. The printing machine of Claim 1 in which said one chamber extends through said multiple stages with a substantially constant cross-section.

3. The printing machine of Claim 2 in which said partition means comprise a plurality of horizontally extending plates.

4. The printing machine of Claim 1 in which said blower means are positioned above said partition means for creating a partial vacuum above said partition means.

5. The printing machine of Claim 2 including adjacent and separable housings surrounding each of said stages, said housings having vertically extending flanges, and seal means between said

flanges for excluding the entry of ambient air into said one chamber extending through said stages.

6. A printing machine having multiple stages comprising:

(a) conveyor means for conveying separate sheets of material to be imprinted through the multiple stages of the machine;

(b) said conveyor means including a plurality of conveyor belts; and

(c) said conveyor means further including a plurality of non-driven guide elements.

7. The printing machine of Claim 6 wherein said non-driven guide elements comprise a plurality of idler rollers.

8. The printing machine of Claim 6 wherein said non-driven guide elements comprise a plurality of non-rotating curved elements.

9. The printing machine of Claim 8 wherein said non-driven guide elements comprise a plurality of spherically-shaped elements.

10. The printing machine of Claim 6 wherein said printing machine includes horizontally extending partition means for dividing said machine into first and second horizontally extending chambers, and wherein said plurality of non-driven guide elements are supported by said partition means.

11. A rotary printing machine for printing indicia on a series of separate sheets conveyed through the machine comprising:

(a) a multiple stage printing machine;

(b) partition means extending horizontally through said multiple stages for dividing said machine into upper and lower chambers;

(c) blower means for reducing the pressure of one of said chambers below atmospheric pressure;

(d) conveyor means comprising conveyor belts for conveying the sheets horizontally in series through said multiple stages of said machine; and

(e) non-driven guide elements positioned in said machine for guiding said sheets from one stage to another in a planar form.

12. The printing machine of Claim 11 in which said non-driven guide elements are positioned at the leading and trailing edges of said sheets in each of said stages.

13. The printing machine of Claim 12 wherein said non-driven guide elements comprise pairs of said guide elements positioned along the length of travel of said sheets.

14. The printing machine of Claim 13 in which said conveyor belts include pulleys at the ends of said conveyor belts, and one of

each of said pairs of said guide elements are positioned substantially directly below one of said pulleys.

15. The printing machine of Claim 11 in which said non-driven guide elements comprise idler rollers.

16. The printing machine of Claim 11 in which said non-driven guide elements comprise a plurality of stationary curved surfaces.

17. The printing machine of Claim 16 wherein said guide elements are of spherical shape.

18. The printing machine of Claim 11 wherein said machine comprises a feed stage and a first printing stage, and wherein at least some of said non-driven guide elements are positioned between said feed stage and said first printing stage.

19. A printing machine as claimed in Claim 11 wherein one of said chambers extends through said multiple stages without partitions such as to have a substantially uniform cross-section.

20. The printing machine as claimed in Claim 11 wherein said conveyor belt includes pulleys and stretched and non-stretched portions of each belt, and wherein said non-driven guide elements

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